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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,204	06/25/2003	Steven Conger	1182.1101101	4359

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EXAMINER	
FICK, ANTHONY D	

ART UNIT	PAPER NUMBER
1753	

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/606,204	CONGER, STEVEN	
	Examiner	Art Unit	
	Anthony Fick	1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 June 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 June 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1/9/04 11/9/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 4 through 6, 8 through 10, 12 through 14, 16, 17 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Dorison et al. (U.S. 5,478,407).

Dorison discloses an apparatus and method of shading surfaces with photovoltaic elements on the shading material. Figure 5 shows the shading material with the solar cells supported.

Regarding claim 1, the points in figure 5, 12, 13 and 14, correspond to supports or columns. Points 12 are high column points, and points 14 are low column points (column 5, paragraph 5). Thus the figure shows two pairs of columns, a first cable suspended between the first columns, cable between columns 12 and 12, a second cable suspended between the second columns, cable that runs from column 14 to column 14 through column 13, and a panel receiver supported by the two cables for receiving a number of solar panels, inside material of figure 5.

Regarding claim 2, Dorison discloses that the first columns are at a higher point than the second columns (column 5, paragraph 5) thus the first columns are relatively long and the second columns are relatively short.

Regarding claim 4, figure 5 shows a center support column, column 13, attached to the second cable between the pairs of columns.

Regarding claim 5, figure 5 further shows stability cable coupled between the first column and the second column, cable between columns 12 and 14.

Regarding claim 6, Dorison shows in figure 8 more detail of the panel receiver. The figure shows a number of curved struts, 23, and a number of horizontal struts connected to the curved struts with moment connections, 24.

Regarding claim 8, figures 6 and 7 show multiple systems with cables from columns of each system coupling to columns of other systems.

Regarding claim 9, the points in figure 5, 12, 13 and 14, correspond to supports or columns. Points 12 are high column points, and points 14 are low column points (column 5, paragraph 5). Thus the figure shows two pairs of columns, a first cable suspended between the first columns, cable between columns 12 and 12, a second cable suspended between the second columns, cable that runs from column 14 to column 14 through column 13, and a panel receiver supported by the two cables for receiving a number of solar panels, inside material of figure 5. Figure 5 also shows a number of solar cells received by the receiver, 20a, 20c and 20d. Dorison discloses the apparatus is useful for shading surfaces or areas in particular for shading spaces which can be negotiated on foot (column 1, paragraph 2) thus the columns are tall enough to allow an activity beneath and the cables long enough to allow an activity between the columns.

Regarding claim 10, Dorison discloses that the first columns are at a higher point than the second columns (column 5, paragraph 5) thus the first columns are relatively long and the second columns are relatively short.

Regarding claim 12, figure 5 shows a center support column, column 13, attached to the second cable between the pairs of columns.

Regarding claim 13, figure 5 further shows stability cable coupled between the first column and the second column, cable between columns 12 and 14.

Regarding claim 14, Dorison shows in figure 8 more detail of the panel receiver. The figure shows a number of curved struts, 23, and a number of horizontal struts connected to the curved struts with moment connections, 24.

Regarding claim 16, the points in figure 5, 12, 13 and 14, correspond to supports or columns and are anchor points for the cables. Points 12 are high column points, and points 14 are low column points (column 5, paragraph 5). Thus the figure shows four anchor points, a first cable suspended between the first and second anchor points, cable between columns 12 and 12, a second cable suspended between the third and fourth anchor points, cable that runs from column 14 to column 14 through column 13, and a panel receiver supported by the two cables for receiving a number of solar panels, inside material of figure 5. The anchor points are spaced and disposed at particular heights to allow the receiver to be supported by the cables (column 5, paragraph 5).

Regarding claim 17, Dorison shows in figure 8 more detail of the panel receiver. The figure shows a number of curved struts, 23, and a number of horizontal struts connected to the curved struts with moment connections, 24.

Regarding claim 19, figure 7 shows a method of supporting a solar panel array by providing two parallel support cables that support a solar panel receiver adapted to receive a solar panel and securing the receiver to the cables (column 6, paragraphs 1, 2 and 3).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dorison as applied to claims 1, 2, 4 through 6, 8 through 10, 12 through 14, 16, 17 and 19 above, and further in view of Stein (EP 0373234).

The disclosure of Dorison is as stated above for claims 1, 2, 4 through 6, 8 through 10, 12 through 14, 16, 17 and 19.

The difference between Dorison and claims 3 and 11 is the requirement of an anchoring device secured to the ground.

Stein teaches a solar generator using solar panels attached to cables and columns. As shown in figures 5 and 6, Stein teaches using anchoring cables and anchoring devices secured to the ground, 5.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the anchoring devices of Stein with the device of Dorison because the anchoring devices are well known within the art to improve the stability of a system and reduce stress on the columns. Because Stein and Dorison are both concerned with photovoltaic systems on cables, one would have a reasonable expectation of success from the combination. Thus the combination meets claims 3 and 11.

5. Claims 7, 15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dorison as applied to claims 1, 2, 4 through 6, 8 through 10, 12 through 14, 16, 17 and 19 above, and further in view of Copeland et al. (U.S. 4,415,759).

The disclosure of Dorison is as stated above for claims 1, 2, 4 through 6, 8 through 10, 12 through 14, 16, 17 and 19.

The difference between Dorison and claims 7, 15 and 18 is the requirement of cable trusses.

Copeland teaches a solar power satellite including a truss structure. As shown in figure 8, Copeland teaches using a cable, 212, to improve the stability of the curved strut 206 by attaching it to the ends of the curved strut and coupled to the center strut, 204.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the cable trusses and center strut of Copeland within the device of Dorison because the trusses and strut provide support to the beam transmitting loads applied thereto into a central column (Copeland column 7, paragraph

4). Because Dorison and Copeland are both concerned with supporting solar arrays, one would have a reasonable expectation of success from the combination. Thus the combination meets claims 7, 15 and 18.

6. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dorison as applied to claims 1, 2, 4 through 6, 8 through 10, 12 through 14, 16, 17 and 19 above, and further in view of Jennings (U.S. 6,397,869).

The disclosure of Dorison is as stated above for claims 1, 2, 4 through 6, 8 through 10, 12 through 14, 16, 17 and 19.

The difference between Dorison and claim 20 is the requirement of generating a cooling effect in the sheltered space through the use of some of the electricity from the solar cells.

Jennings teaches a portable tent structure that utilizes a fan to cool the tent structure. As shown in figure 2, the fan is attached to a portable power supply that Jennings teaches can be recharged by solar power (column 2, paragraph 8).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to generate a cooling effect with a fan powered by the solar cells as in Jennings within the method of providing shelter of Dorison because heat and humidity are common problems within tent structures (Jennings column 1, paragraph 3) and utilizing the available solar power for the cooling device eliminates the necessity of another source of power. Because Jennings and Dorison are both concerned with outdoor shading structures, one would have a reasonable expectation of success from the combination. Thus the combination meets claim 20.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Fick whose telephone number is (571) 272-6393. The examiner can normally be reached on Monday thru Friday 7 AM to 4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Anthony Fick ADF
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August 18, 2006

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